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# Laparoscopy in Gynecologic Surgery

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*Laparoscopy has been utilized in gynecologic surgery for over 20 years. With the introduction of video monitoring and the development of new endoscopic instruments, the role of laparoscopy has greatly expanded. Laparoscopy is an invaluable tool in the management of the cancer patient. Current use focuses primarily on the diagnosis and staging of intraabdominal and pelvic malignancies. However laparoscopy is also utilized as an adjunct to therapeutic resection and palliation. The following is a brief discussion of the role of laparoscopy in the management of gynecologic cancer.*

## Ovarian Cancer

For cancer of the ovary, laparoscopy is utilized primarily as an adjunct to diagnosis and staging. It presents an alternative to laparotomy in the evaluation of the patient with an adnexal mass; if ovarian cancer is found on laparoscopy, then the surgeon may proceed immediately with laparotomy and therapeutic resection. Alternatively, patients with a benign mass or with unresectable disease can avoid unnecessary laparotomy.

One major concern in the laparoscopic management of the patient with an adnexal mass is the potential rupture of a malignant ovarian cyst. Spillage of malignant cells can seed the peritoneal cavity and theoretically worsen the prognosis. Retrospective studies on this issue, however, remain equivocal. Most studies demonstrate no significant difference in survival when intraoperative rupture occurs, even if patients receive no postoperative treatment.<sup>1-3</sup> Other studies, however, demonstrate a negative impact on survival;<sup>4</sup> therefore the issue remains unresolved. The prudent surgeon should best approach potentially malignant cysts with caution and avoid intraabdominal spillage if possible.

## Endometrial Cancer

The primary treatment for early stage adenocarcinoma of the endometrium is hysterectomy and bilateral salpingo-oophorectomy. A significant number of patients with clinical stage I cancer, however, may have extrauterine metastasis. The surgical evaluation for endometrial cancer, therefore, includes peritoneal washings for cytology, selective pelvic and paraaortic lymphadenectomy, and inspection of the peritoneal and serosal surfaces in the abdominal cavity. Although laparotomy has been the traditional approach for accomplishing this, recently developed techniques allow all of this to be performed laparoscopically. Therefore laparoscopic staging, when combined with vaginal hysterectomy and bilateral salpingo-oophorectomy, appears suitable for the treatment of early stage endometrial cancer.

Padial et al. reported on a series of patients undergoing laparoscopic-assisted vaginal hysterectomy (LAVH) compared to historical controls undergoing abdominal hysterectomy.<sup>5</sup> Length of surgery and operative blood loss were similar; length of hospital stay, post-operative fever, and patient discomfort were lower with LAVH. Childers<sup>6</sup> and others<sup>7,8</sup> have reported on laparoscopic pelvic and paraaortic lymphadenectomy. In Childers series operative time for the paraaortic lymphadenectomy ranged from 20 to 75 minutes, mean number of lymph nodes harvested was 6.3, mean blood loss was 50 cc, and there were no major intraoperative complications. The procedure could not be completed in 3 patients because of obesity.

Therefore LAVH with laparoscopic lymphadenectomy and staging appears a reasonable alternative to laparotomy in patients with early stage endometrial cancer. Potential benefits include shorter hospital stay, less discomfort, and quicker resumption of normal function. Contraindications include patients with extensive intra-abdominal adhesions and obese patients, in whom laparoscopy and/or retroperitoneal dissection may not be feasible. Other relative contraindications include underlying respiratory or cardiovascular illness. Unknown at this time is whether long-term follow-up will yield results similar to laparotomy. Areas of concern include the extent of staging lymphadenectomy, the adequacy of the abdominal exploration, and the possibility of port site metastasis. Although LAVH potentially shortens hospital stay and quickens recovery, overall curability must remain the primary focus and should not be compromised.

## Cervix Cancer

It is recognized that in patients with locally advanced cervix cancer, approximately 30% will have extrapelvic metastases. This is of concern, since intraabdominal or retroperitoneal lymph node metastases clearly impact treatment and outcome. Patients with paraaortic lymph node metastases require treatment with extended

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field radiation. Ultrasound, CT scan, and lymphangiogram, however, are all of limited sensitivity in detecting metastases. Therefore pretreatment exploratory laparotomy has been utilized for treatment planning. Retroperitoneal lymphadenectomy, however, can be accomplished utilizing laparoscopic techniques. Advantages include a quicker recovery and shorter time to initiate definitive treatment. There may also be the advantage of less peritoneal adhesions and a lower risk of radiation enteritis. Childers et. al.<sup>9</sup> reported on 18 patients undergoing laparoscopic staging for cervix cancer; no significant complications were reported. Therefore laparoscopy is a potentially useful tool in the pretreatment staging evaluation of patients with cervix cancer.

Recent reports have also focused on laparoscopy as an adjunct to therapeutic resection for early stage cervix cancer. Hatch et. al. reported on 37 patients who underwent laparoscopic assisted radical vaginal hysterectomy for early stage cervix cancer.<sup>10</sup> Mean operative time was significantly longer, however mean hospital stay was significantly shorter when compared to abdominal radical hysterectomy. The incidence of bladder, ureteral, and bowel injury was significantly higher in the laparoscopic group. Survival data was not reported. This approach to the treatment of stage I cervix cancer should be considered investigational at this time.

In summary, the role of laparoscopy in the evaluation and management of the patient with gynecologic cancer is rapidly evolving. Minimally invasive surgery provides a major advantage for quicker recovery and less disruption in quality of life. Overall curability, however, must remain the primary concern and should not be compromised. Carefully planned prospective studies will be required to examine these various issues.

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